



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:

Confirmation No. 1948

Hitoshi Sekine et al.

Group Art Unit No.: 2172

Serial No.: 09/782,988

Examiner: Fred I. Ehichioya

Filed: February 13, 2001

For: METHOD AND APPARATUS FOR STORING AND MANAGING DATA

Mail Stop Appeal Brief – Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed on October 5, 2004.

I. REAL PARTY IN INTEREST

Ricoh Corporation is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

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III. STATUS OF CLAIMS

Claims 1-4, 6-14, 16-24 and 26-31 are pending in this application, were finally rejected and are the subject of this appeal. Claims 5, 15 and 25 were canceled during prosecution.

IV. STATUS OF AMENDMENTS

No amendments were filed after the final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present application contains independent Claims 1, 12 and 22. These independent claims recite similar limitations, except in the context of an apparatus, a method and a computer-readable medium, respectively. Claims 1, 12 and 22 are directed generally to an approach for storing and managing digital data in a manner that allows digital data to be retrieved and used, while guaranteeing that the original copy of the data is not altered.

According to the approach recited in Claims 1, 12 and 22, digital data is received and automatically stored to a write-once-read-many (WORM) device. A search query is processed against the digital data stored on the WORM device. In response to processing the search query against the digital data stored on the WORM storage device, data is generated that identifies data stored on the WORM storage device that satisfies the search query (Specification at Page 3, lines 1-16; Page 5, lines 11-20; Page 6, lines 10-18; Page 8, line 13 through Page 10, line 3; Page 11, line 17 through Page 13, line 3 and FIGS. 2-4).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-3, 8-13, 18-23 and 28-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ramsay et al.*, U.S. Patent 5,502,576 (hereinafter “*Ramsay*”) in view of *Moon et al.*, U.S. Patent 6,408,338 (hereinafter “*Moon*”).

2. Claims 4, 6, 7, 14, 16, 17, 24, 26 and 27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ramsay* in view of *Moon* and further in view of *Kern*, U.S. Patent 6,202,124 (hereinafter “*Kern*”).

VI. ARGUMENTS

A. Introduction

It is well founded that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references cited and relied upon must teach or suggest all the claim limitations. In addition, a sufficient factual basis to support the obviousness rejection must be proffered. *In re Freed*, 165 USPQ 570 (CCPA 1970); *In re Warner*, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 148 USPQ 721 (CCPA 1966).

With respect to the present application, it is respectfully submitted that *Ramsay* and *Moon*, considered alone or in combination, do not teach or suggest all the limitations of Claims 1-3, 8-13, 18-23 and 28-31. It is further submitted that a sufficient factual basis has not been proffered during the prosecution of the present application to support the rejection of Claims 1-3, 8-13, 18-23 and 28-31 under 35 U.S.C. § 103 as being unpatentable over *Ramsay* in view of *Moon*.

It is also respectfully submitted that *Ramsay*, *Moon* and *Kern*, considered alone or in combination, do not teach or suggest all the limitations of Claims 4, 6, 7, 14, 16, 17, 24, 26 and 27. It is further submitted that a sufficient factual basis has not been proffered during the

prosecution of the present application to support the rejection of Claims 4, 6, 7, 14, 16, 17, 24, 26 and 27 under 35 U.S.C. § 103 as being unpatentable over *Ramsay* in view of *Moon* and further in view of *Kern*.

B. Claims 1-3, 8-13, 18-23 and 28-31 Are Patentable Over Ramsay In View of Moon

It is respectfully submitted that Claims 1-3, 8-13, 18-23 and 28-31 are patentable over *Ramsay* and *Moon* for at least the reason provided hereinafter.

CLAIM 1

Claim 1 recites a data storage apparatus that requires:

“an interface configured to receive digital data; and a data processor communicatively coupled to the interface and being configured to:
automatically receive digital data from the interface and cause the digital data to be stored to a write-once-read-many (WORM) storage device,
process a search query against the digital data stored on the WORM storage device, and
in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the search query.”

It is respectfully submitted that *Ramsay* and *Moon*, considered alone or in combination, do not teach or suggest a data storage apparatus that includes a data processor configured to “in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the search query,” as recited in Claim 1. The Examiner has admitted that *Ramsay* does not teach or suggest this Claim 1 limitation, “[r]amsay does not explicitly teach process a search query against the digital data stored on the WORM storage device, and in response to processing the search query against the digital data stored on the WORM storage

device, generate data that identifies data stored on the WORM storage device that satisfies the search query.” Final Office Action, Page 5, lines 9-12. The Examiner has instead relied upon *Moon* for this limitation and in particular, the text at Col. 3, lines 60-65 of *Moon*. Final Office Action, Page 5, lines 16-22; Advisory Action, Page 2, lines 11-15.

Moon describes a method for fast searching packet data. Received packet data is segmented into basic units of a predetermined size and basic unit information is generated for each basic unit. The basic unit information includes information indicating the arrival time of the first packet of each corresponding basic unit. The basic unit information is recorded with a data stream and then used during playback to quickly search for a desired position in the data stream. *Moon*, Abstract and Summary of the Invention.

The particular portion of *Moon* relied upon by the Examiner in support of the final rejection, i.e., the text at Col. 3, lines 60-65 of *Moon*, states (note: lines 55-65 are reproduced to provide a complete paragraph):

Accordingly, to achieve the first object and other objects of the present invention, there is provided a method of generating information for fast searching. The method includes the steps of segmenting a data stream comprising input packet data, into a plurality of basic units, each basic unit having a predetermined size, generating basic unit information related to each of the basic units of the data stream, and generating data stream information including a plurality of the basic unit information, each of the basic unit information of the basic unit having arrival time information of a first packet of data of a corresponding basic unit.

This portion of *Moon* describes how basic unit information is generated and includes the arrival time of a first packet of data in a basic unit. The basic unit information is stored on recording medium separate from the packet data and is used to reduce the amount of time required to search the packet data stored on the recording medium.

With respect to the Claim 1 limitation of “in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the search query,” the Examiner considers

the basic unit information described in *Moon* to be the data generated “that identifies data stored on the WORM storage device that satisfies the search query.” Advisory Action, Page 3, lines 11-15. In addition, the Examiner considers the searching for a desired position in a data stream described in *Moon* to be “processing the search query against the digital data” recited in Claim 1. Advisory Action, Page 3, lines 10-11.

Given how the Examiner has applied the *Moon* reference, it is respectfully submitted that the Claim 1 limitation of “in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the search query” is not taught or suggested by *Moon*.

First, there is no indication in *Moon* that the basic unit information is in any way related to results of performing a search of the digital data. For example, the basic unit information of *Moon* does not identify digital data that satisfies a search for a desired position in the digital data. Rather, the basic unit information is used to provide better searches of the digital data. *Moon* specifically describes that the basic unit information includes the arrival time of a first packet of data of a corresponding basic unit. *Moon*, at Col. 3, lines 63-65. There is absolutely no teaching or suggestion in *Moon* that the basic unit information in any way indicates data that satisfies a search query. Thus, given that the Examiner considers the basic unit information described in *Moon* to be the data generated “that identifies data stored on the WORM storage device that satisfies the search query,” it is respectfully submitted that the Claim 1 limitation of generating data “that identifies data stored on the WORM storage device that satisfies the search query” is not in any way taught or suggested by *Moon*, since the basic unit information does not indicate data that satisfies a search query.

Second, there is no indication in *Moon* that the basic unit information is generated in response to searching for a desired location in a stream. To the contrary, in *Moon* the basic unit information is generated from the packet data before a search is done. The basic unit information is then used to assist in searching for a desired location in a stream. Nowhere does *Moon* teach or suggest that the basic unit information is generated in response to

processing a search query. Thus, even if the basic unit information of *Moon* was the same as the data generated in Claim 1, i.e., the “data stored on the WORM storage device that satisfies the search query,” the limitation of generating the data “in response to processing the search query against the digital data stored on the WORM storage device” is not taught or suggested by *Moon* because the basic unit information of *Moon* is not generated in response to processing a search query.

In view of the foregoing, it is respectfully submitted that the Claim 1 limitation of “in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the search query” is not taught or suggested by *Moon*. Given the Examiner’s admission that this limitation is not taught by *Ramsay* and the sole reliance on the *Moon* reference, it is respectfully submitted that Claim 1 includes at least one limitation that is not in any way taught or suggested by *Ramsay* and *Moon*, considered alone or in combination, and that Claim 1 is therefore patentable over *Ramsay* and *Moon*.

CLAIMS 2-3 AND 8-11

Claims 2-3 and 8-11 all depend from Claim 1 and include all of the limitations of Claim 1. It is therefore respectfully submitted that Claims 2-3 and 8-11 are patentable over *Ramsay* and *Moon* for at least the reasons set forth herein with respect to Claim 1. Furthermore, it is respectfully submitted that Claims 2-3 and 8-11 recite additional limitations that independently render them patentable over *Ramsay* and *Moon*.

For example, Claim 3 further requires that “the data processor is further configured to generate one or more indexes for data storage to the WORM storage device.” The Final Office Action asserted that this limitation is taught by *Kern* at Col. 22, lines 18-23 and Col. 30, lines 58-59. Since the *Kern* reference is not relied upon for this rejection and since neither the *Kern* reference nor the *Moon* reference have 22 columns of text, it is presumed

that the Final Office Action meant to refer to the *Ramsay* reference. The text at Col. 22, lines 18-23 of *Ramsay* does not mention indexes. The text at Col. 30, lines 58-59 of *Ramsay* briefly mentions an index in the context of database 84 recording an accession number, index, or address for an initial frame and size associated with a specific document to permit cataloging and retrieval of the document. There is no mention or suggestion, however, of generating one or more indexes for data stored on a WORM storage device. It is therefore respectfully submitted that the additional limitations required by Claim 3, namely, “the data processor is further configured to generate one or more indexes for data stored to the WORM storage device,” are not taught or suggested by *Moon* and *Ramsay*, considered alone or in combination.

CLAIMS 12-13 AND 18-21

Claims 12-13 and 18-21 include limitations similar to Claims 1, 3, 4 and 6-11, except in the context of a method for storing data. It is therefore respectfully submitted that Claims 12-13 and 18-21 are patentable over *Ramsay* and *Moon* for at least the reasons set forth herein with respect to Claims 1, 3, 4 and 6-11.

CLAIMS 22-23 AND 28-31

Claims 22-23 and 28-31 include limitations similar to Claims 1, 3, 4 and 6-11, except in the context of computer-readable media for storing data. It is therefore respectfully submitted that Claims 22-23 and 28-31 are patentable over *Ramsay* and *Moon* for at least the reasons set forth herein with respect to Claims 1, 3, 4 and 6-11.

In view of the foregoing, it is respectfully submitted that Claims 1-3, 8-13, 18-23 and 28-31 are patentable over *Ramsay* and *Moon*, considered alone or in combination, since each

of these claims include one or more limitations that are not in any way taught or suggested by *Ramsay and Moon*.

C. Claims 4, 6, 7, 14, 16, 17, 24, 26 and 27 Are Patentable Over *Ramsay* In View of *Moon* and Further in View of *Kern*

It is respectfully submitted that Claims 4, 6-7, 14, 16-17, 24, 26 and 27 are patentable over *Ramsey, Moon* and *Kern* for at least the reason provided hereinafter.

CLAIMS 4, 6 AND 7

Claims 4, 6 and 7 all depend from Claim 1 and include all of the limitations of Claim

1. As set forth herein with respect to Claim 1, *Ramsay and Moon* do not teach or suggest one or more limitations required by Claim 1. It is also respectfully submitted that these limitations are not taught or suggested by *Kern*. For example, it is respectfully submitted that *Kern* does not teach or suggest a data storage apparatus having a data processor configured to “in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the search query,” as is required by Claims 4, 6 and 7.

Kern describes a data storage system with an outboard data manager that processes data transfer requests to reduce the computational burden on a host processor. When processed, the data transfer requests cause data to be copied from a source storage device to a target storage device. *Kern* does not in any way teach or suggest processing search queries against digital data stored on a WORM storage device. Furthermore, *Kern* does not in any way teach or suggest generating “data that identifies data stored on the WORM storage device that satisfies the search query,” as is required by Claims 4, 6 and 7. It is therefore respectfully

submitted that the limitation of “in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the search query” is not in any way taught or suggested by *Kern*. In view of the foregoing, it is therefore respectfully submitted that Claims 4, 6 and 7 include one or more limitations that are not taught or suggested by *Ramsay, Moon and Kern*, considered alone or in combination, and that Claims 4, 6 and 7 are therefore patentable over *Ramsay, Moon and Kern*,

CLAIMS 14, 16 AND 17

Claims 14, 16 and 17 recite limitations similar to Claims 4, 6 and 7, except in the context of method claims. It is therefore respectfully submitted that Claims 14, 16 and 17 are patentable over *Ramsay, Moon and Kern* for at least the reasons set forth herein with respect to Claims 4, 6 and 7.

CLAIMS 24, 26 AND 27

Claims 24, 26 and 27 recite limitations similar to Claims 4, 6 and 7, except in the context of method claims. It is therefore respectfully submitted that Claims 24, 26 and 27 are patentable over *Ramsay, Moon and Kern* for at least the reasons set forth herein with respect to Claims 4, 6 and 7.

In view of the foregoing, it is respectfully submitted that Claims 4, 6-7, 14, 16-17, 24, 26 and 27 are patentable over *Ramsay, Moon and Kern* since each of these claims include one or more limitations that are not in any way taught or suggested by *Ramsay, Moon and Kern*, considered alone or in combination.

VII. CONCLUSION AND PRAYER FOR RELIEF

Based on the foregoing, it is respectfully submitted that the rejection of Claims 1-3, 8-13, 18-23 and 28-31 under 35 U.S.C. § 103 being unpatentable over *Ramsay* in view of *Moon* lacks the requisite factual and legal bases. Appellants therefore respectfully request that the Honorable Board reverse the rejection of Claims 1-3, 8-13, 18-23 and 28-31 under 35 U.S.C. § 103 over *Ramsay* in view of *Moon*. It is further respectfully submitted that the rejection of Claims 4, 6, 7, 14, 16, 17, 24, 26 and 27 under 35 U.S.C. § 103(a) as being unpatentable over *Ramsay* in view of *Moon* and further in view of *Kern*, lacks the requisite factual and legal bases. Appellants therefore respectfully request that the Honorable Board reverse the rejection of Claims 4, 6, 7, 14, 16, 17, 24, 26 and 27 under 35 U.S.C. § 103 over *Ramsay* in view of *Moon* and further in view of *Kern*.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP



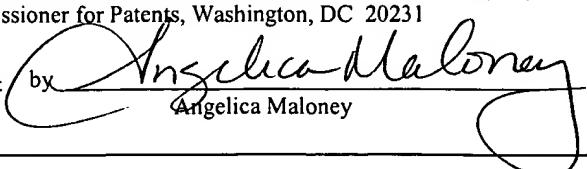
Edward A. Becker
Reg. No. 37,777
Date: December 3, 2004

1600 Willow Street
San Jose, California 95125-5106
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CLAIMS APPENDIX

1. A data storage apparatus comprising:
an interface configured to receive digital data; and
a data processor communicatively coupled to the interface and being configured to
automatically receive digital data from the interface and cause the digital data
to be stored to a write-once-read-many (WORM) storage device,
process a search query against the digital data stored on the WORM storage
device, and
in response to processing the search query against the digital data stored on the
WORM storage device, generate data that identifies data stored on the
WORM storage device that satisfies the search query.
2. The apparatus as recited in Claim 1, further comprising a WORM storage device.
3. The apparatus as recited in Claim 1, wherein the data processor is further configured
to generate one or more indexes for data stored to the WORM storage device.
4. The apparatus as recited in Claim 1, wherein the data processor is further configured
to generate meta data that describes one or more attributes of the data stored to the
WORM storage device.
6. The apparatus as recited in Claim 1, wherein the data processor is further configured
to process the search query against one or more indexes generated by the data
processor.
7. The apparatus as recited in Claim 1, wherein the data processor is further configured
to automatically process the search query according to a set of one or more time
criteria.
8. The apparatus as recited in Claim 1, wherein the digital data includes facsimile data.

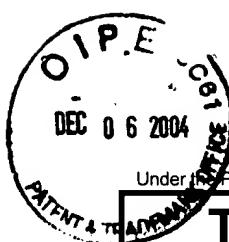
9. The apparatus as recited in Claim 1, wherein the digital data includes electronic document data.
10. The apparatus as recited in Claim 1, wherein the digital data includes printer data.
11. The apparatus as recited in Claim 1, wherein:
the data is stored on an WORM optical medium, and
the data processor is further configured to cause a label to be applied to the WORM optical medium, wherein the label specifies one or more attributes of the data.
12. A method for storing data comprising the computer-implemented steps of:
receiving digital data to be stored;
automatically causing the digital data to be stored to a write-once-read-many (WORM) storage device without human intervention;
receiving a search query;
processing the search query against the digital data stored on the WORM storage device; and
generating data that identifies data stored on the WORM storage device that satisfies the search query.
13. The method as recited in Claim 12, further comprising generating one or more indexes for data stored to the WORM storage device.
14. The method as recited in Claim 12, further comprising generating meta data that describes one or more attributes of the data stored to the WORM storage device.
16. The method as recited in Claim 12, further comprising processing the search query against one or more indexes.

17. The method as recited in Claim 12, further comprising automatically processing the search query according to a set of one or more time criteria.
18. The method as recited in Claim 12, wherein the digital data includes facsimile data.
19. The method as recited in Claim 12, wherein the digital data includes electronic document data.
20. The method as recited in Claim 12, wherein the digital data includes printer data.
21. The method as recited in Claim 12, wherein:
the data is stored on an WORM optical medium, and
the method further comprises causing a label to be applied to the WORM optical medium, wherein the label specifies one or more attributes of the data.
22. A computer-readable medium carrying one or more sequences of one or more instructions for storing data, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:
receive digital data to be stored; and
automatically cause the digital data to be stored to a write-once-read-many (WORM) storage device without human intervention;
receive a search query;
process the search query against the digital data stored on the WORM storage device;
and
generate data that identifies data stored on the WORM storage device that satisfies the search query.
23. The computer-readable medium as recited in Claim 22, further comprising one or more sequences of additional instructions which, when executed by the one or more

processors, cause the one or more processors to generate one or more indexes for data stored to the WORM storage device.

- 24. The computer-readable medium as recited in Claim 22, further comprising one or more sequences of additional instructions which, when executed by the one or more processors, cause the one or more processors to generate meta data that describes one or more attributes of the data stored to the WORM storage device.
- 26. The computer-readable medium as recited in Claim 22, further comprising one or more sequences of additional instructions which, when executed by the one or more processors, cause the one or more processors to process the search query against one or more indexes.
- 27. The computer-readable medium as recited in Claim 22, further comprising one or more sequences of additional instructions which, when executed by the one or more processors, cause the one or more processors to automatically process the search query according to a set of one or more time criteria.
- 28. The computer-readable medium as recited in Claim 22, wherein the digital data includes facsimile data.
- 29. The computer-readable medium as recited in Claim 22, wherein the digital data includes electronic document data.
- 30. The computer-readable medium as recited in Claim 22, wherein the digital data includes printer data.
- 31. The computer-readable medium as recited in Claim 22, wherein:
 - the data is stored on an WORM optical medium, and
 - the further comprising one or more sequences of additional instructions which, when executed by the one or more processors, cause the one or more processors to

cause a label to be applied to the WORM optical medium, wherein the label specifies one or more attributes of the data.



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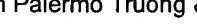
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	First Named Inventor	Hitoshi Sekine	
	Group Art Unit	2172	
	Examiner Name	Fred I. Ehichioya	
Total Number of Pages in This Submission	70	Attorney Docket Number	49986-0505

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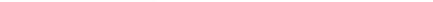
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